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IN THE

Supreme Court of the United States

OCTOBER TERM, 1968.

No. 1082

OHIO CITIZENS TRUST COMPANY, TRUSTEE, AND TELEPRO INDUSTRIES, INCORPORATED,
Petitioners,

vs.

LEAR JET CORPORATION,
Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT.

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TABLE OF CONTENTS.

	PAGE
Opinions Below	1
Jurisdiction	2
Questions Involved	2
Statutes Involved	3
Statement of the Case	3
Reasons for Granting Writ	6
Conclusion	13
Appendix A—Opinion of Court of Appeals	1A
Appendix B—Opinion and Judgment of District Court	1B

AUTHORITIES CITED.

Cases.

Diamond Rubber Co. v. Consolidated Rubber Tire Co., 220 U. S. 428 (1911) 2, 7, 8, 11

Eibel Process Co. v. Minnesota & Ontario Paper Co., 261 U. S. 45 (1923) 10

Goodman et al. v. Paul E. Hawkinson Co., 120 F. 2d 167 (9 Cir., 1941) 8

Graham v. John Deere Co., 383 U. S. 1 (1966) 2, 9, 10

Jackson Fence Co. v. Peerless Wire Fence Co., 228 Fed. 691 (6 Cir., 1915) 7

Radio Corporation of America v. Radio Engineering Laboratories, 293 U. S. 1, reh. denied 293 U. S. 522 (1934) 2, 6

Simplex Piston Ring Co. of America, Inc. v. Horton-Gallo-Creamer Co., 61 F. 2d 748 (2 Cir., 1932) 7

In Re Sponnoble, ... F. 2d ....., 160 U. S. P. Q. 237 (1969) 10

U. S. v. Adams, 383 U. S. 39 (1966) 2, 10, 11, 12

Statutes.

35 U. S. Code, Section 103 ..... 3, 9

35 U. S. Code, Section 112 8

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LEAR JET CORPORATION,

Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT.

Petitioners pray that a Writ of Certiorari issue to review the judgment of the United States Court of Appeals for the Tenth Circuit entered in the above case on December 3, 1968.

OPINIONS BELOW.

The opinion of the Kansas District Court dated June 27, 1967 is not officially reported; a copy of this opinion is in the appendix attached hereto (App. B). The opinion of the Court of Appeals for the Tenth Circuit affirming the decision of the District Court is reported at 403 F. 2d 956; a copy of this opinion is included in the appendix (App. A).

JURISDICTION.

The judgment of the United States Court of Appeals for the Tenth Circuit was entered on December 3, 1968. A petition for rehearing was not filed.

The jurisdiction of this Court is invoked under 28 U. S. C. § 1254(1).

QUESTIONS INVOLVED.

1. Petitioner's arguments to the Court of Appeals as to the automatic neutralization or compensation for varying tape tension derived from the invention of claim 1 which recited all of the physical structure necessary to achieve these advantages were disregarded in determining patentability of Eash claim 1 contrary to the rule of law applied in *Radio Corporation of America* v. *Radio Engineering Laboratories*, 293 U. S. 1, reh. denied 293 U. S. 522 (1934); *Diamond Rubber Co.* v. *Consolidated Rubber Tire Co.*, 220 U. S. 428, 435-36 (1911).
2. Did the Court of Appeals for the Tenth Circuit apply the standard of patentable invention contrary to the standard applied by the Court in *Graham* v. *John Deere Co.*, 383 U. S. 1 (1966), when it failed to ascertain the level of ordinary skill in the pertinent art of magnetic tape cartridges at the time of the invention?
3. Is the standard of obviousness applied by the Court of Appeals for the Tenth Circuit to an endless magnetic tape cartridge contrary to the standard applied by the Court in *U. S.* v. *Adams*, 383 U. S. 39 (1966)?
4. Was the standard of obviousness applied by the Court of Appeals for the Tenth Circuit to an endless magnetic tape cartridge contrary to the standard of invention applied in *Graham* v. *John Deere Co.*, 383 U. S. 1 (1966), when it disregarded the discovery by Eash of the source

of the problem even though the remedy may have appeared obvious once the source of the problem was identified?

STATUTES INVOLVED.

Title 35 of the United States Code provides in pertinent part:

> SECTION 103. A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

STATEMENT OF CASE.

This suit was brought under the Patent Laws of the United States by Ohio Citizens Trust Company, Trustee, and Telepro Industries, Incorporated (Telepro) against Lear Jet Corporation (Lear Jet) in the District of Kansas, alleging infringement of Trustee's Patent No. 2,778,637 (called Eash patent) issued January 22, 1957. Telepro is the exclusive licensee. The only question involved is validity of claim 1 of the Eash patent. The judgment of the trial court holding claim 1 invalid was affirmed by the Court of Appeals. In the appeal, infringement of claim 1 was conceded by Lear Jet; the Court of Appeals did not discuss infringement in view of the finding of invalidity.

The Eash patent teaches a distinctive plug-in endless magnetic tape cartridge used in recording and playback machines. The cartridges have enjoyed distinguished public acceptance and commercial success, being widely and commonly used in the home, automobile and commercial

establishments to furnish musical entertainment. A new market of use was generated and the trial court found that the respondent had been a late-comer and that respondent's cartridge for automobile use had as its genesis study and testing of the Eash cartridge. The patented cartridge represented a new combination of mechanical elements which functioned in a facile, economical and efficient manner.

Only claim 1 of the Eash patent is involved, this claim being for a combination of elements which have been sufficiently described in the opinion of the Court of Appeals.

With respect to the issues raised by this petition, the following points are important:

1. The District Court and the Court of Appeals made no findings relative to the level of ordinary skill in the art with which the claimed invention was concerned at the time of the invention.
2. The Court of Appeals conceded that the combination of claim 1 was new. The Mohawk Message Repeater cartridge did not, *per se*, anticipate claim 1.
3. There was no evidence that the Eash cartridge of claim 1 did not achieve all of advantages asserted therefor by the specific combination of elements and their structural relationships as recited in claim 1.
4. There was no evidence that Eash was not the first to discover the source of certain problems in this art which were remedied by the claimed Eash cartridge by means which were considered simple by hindsight.

In holding the Eash patent invalid, the Court disregarded the asserted advantage for the cartridge that the freely rotatable reel provided for automatic compensation for varying tape tension when the magnetic tape was being

pulled from and returned to the reel so as to eliminate undesirable variations in sound.

Both in the trial court and on appeal, the burden placed on respondent to sustain its defense of invalidity of claim 1 repeatedly ignored the test of ascertaining the level of ordinary skill in the art at the time of the invention. Petitioner's trial expert, George E. Ziegler, was such a person skilled in the sound reproduction art, having clearly and uncontrovertibly established his qualifications. Respondent's expert, Edward R. Hughes, did not have qualifications establishing him as skilled in this art. In any event, respondent did not undertake to establish the level of ordinary skill in the art at the time of Eash's invention nor were findings of fact in this regard made by the trial court.

No specific reason was given by the Court why one skilled in the art would have found it obvious to combine the elements of a tape cartridge to include a freely rotatable reel as was lacking in the Mohawk Message Repeater cartridge other than it all seemed simple and obvious from the vantage point of hindsight. The prior art did not disclose a cartridge capable of accomplishing the functions of the Eash cartridge which had opened a new field in magnetic tape sound reproduction usages.

Although Eash was the first to recognize the source of some of the problems in the prior art devices, his invention was characterized as being obvious because it appeared so simple in retrospect. The fact that his patent failed to explain all of the reasons for the successful device as claimed and supply theories and explanations for all physical phenomena which contributed to the success of the device as claimed should not have served as a basis for minimizing the invention. The successful benefits and advantages which flow from a properly claimed structure are inherent in the said structure and the patentee is entitled

to reply upon all of them, even those not recited in his patent, to sustain its validity.

REASONS FOR GRANTING THE WRIT.

1. A Patentee Is Entitled to Assert All Advantages Deriving From Patented Invention.

Although the Court of Appeals ostensibly recognized petitioner's contention as to the freely rotating reel mounting the magnetic tape assuring proper tape tension to protect against undesirable variations in sound, the contention was not given any legal weight because the word "tension" did not appear in the patent. Also, the Court erroneously held that "No element is proposed as a means of tension elimination." The latter allegation shows confusion of reasoning because it was the freely rotatable reel with hub mounting the tape which provided automatic neutralization for varying tape tension. Accordingly, claim 1 does recite means for tension elimination. It is correct that lubrication of tape also was needed to achieve an operable device, but lubrication of tape had been old in the art at the time of the Eash invention. Notably, lubrication of tape alone would not have made it possible to achieve the successful Eash cartridge. In the Eash cartridge, the tension feature does result directly from the cartridge which is clearly described and claimed in the patent.

As to tension elimination or compensation, it was not necessary to use this word ir the patent. The courts below confused the law of patent claiming with the law of evidence of patentability. A patentee is entitled to all of the benefits and advantages of his patent, including uses and functions of which he was not aware at the time the patent was granted. *Radio Corporation of America* v. *Radio Engineering Laboratories, supra.*

In *Diamond Rubber Co.* v. *Consolidated Rubber Tire Co.* (1911), 220 U. S. 428, 435, 436, the Supreme Court held that latent features of an invention undisclosed at the time of filing of the patent application may be advanced to support a patent under the test of litigation, stating:

> "A patentee may be baldly empirical, seizing nothing beyond his experiments and the result; yet if he has added a new and valuable article to the world's utilities he is entitled to rank and protection of an inventor. And how can it take from his merit that he may not know all of the forces which he has brought into operation? It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention, and it is immaterial whether he can stand a successful examination as to the speculative ideas involved."

Thereafter, in *Jackson Fence Co.* v. *Peerless Wire Fence Co.*, 228 Fed. 691, 696 (6 Cir. 1915), the Court followed the precedent of the *Diamond Rubber* case, *supra,* when it stated:

> ". . . if he [Patentee] had undertaken to state the practical commercial benefits, and had omitted what afterwards proved to be the chief one, he would nevertheless, be entitled to have his patent construed with reference to that unspoken advantage, since the patentee is entitled to the benefit of every function within the scope of the claims and actually possessed by his mechanism, even if he does not know of it at the time of the patenting . . . no obligation rests upon the patentee to turn his specification into a trade circular."

Judge Learned Hand, also relying on the *Diamond Rubber* case in *Simplex Piston Ring Co. of America, Inc.* v. *Horton-Gallo-Creamer Co.*, 61 F. 2d 748, 750 (2 Cir. 1932), stated:

> "The second function—that of lubrication—is as we have said, a gloss upon the patent. We agree that this is not fatal; a patentee may invoke in support of his invention advantages of which he was not aware."

To the same effect, we look to *Goodman et al.* v. *Paul E. Hawkinson Co.*, 120 F. 2d 167 (9th Cir., 1941).

Since there is no infirmity in Claim 1 as to particularly pointing out the invention, there is no reason why the patentee may not advance in interest of his patent, any feature, advantage and use which was not originally disclosed in the filed application, and which is charactertistic of, or flows from, the device originally disclosed. No valid reason was submitted why an "afterthought" regardless of the source, should not be available to an inventor in support of his patent or any reasoning for abandoning the holding of the Supreme Court in *Diamond Rubber Co.* v. *Consolidated Rubber Tire Co., supra,* at p. 435, where the Court further noted:

> "And how can it take from his merit that he may not know all of the forces which he has brought into operation?"

And further note this statement, at p. 437:

> "To take from him the advantage of it upon nice speculation as to whether it was an ignorant guess or confident knowledge and adaptation might do him great injustice."

There is no valid reason why an inventor should not be able to show that what he has suitably disclosed and claimed is more unobvious than he supposed, to the extent that even he did not fully appreciate its full merit at the time of his discovery. The statutory requirements for the patent specification in Title 35, U. S. C. § 112, require only "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same" and that "the best mode contemplated by the inventor for carrying

out his invention'' be set forth. There is here no requirement that all the advantages be set forth in the specification.

The law is contrary to the holding of the Court of Appeals which disregarded petitioner's contention in this regard.

2. The Court of Appeals Failed to Determine the Level of Ordinary Skill in Pertinent Art at the Time of Invention.

Although *Graham* v. *John Deere Co., supra,* requires a determination of the level of ordinary skill in the art at the time of the invention, this test was ignored. Petitioners were relegated to assuming the burden of proof in this regard which they did with their expert, Ziegler, a person with outstanding qualifications in the magnetic tape cartridge field. Respondent did not undertake this burden and indeed, adduced no evidence from a person of a comparable stature. No determination as to level of skill in the art is made by the trial court or the Court of Appeals. It was Ziegler's opinion that Eash's achievement was not an obvious one.

The courts, after *Graham,* have not grappled with determining the level of skill test satisfactorily and mainly, have difficulty recognizing the norms for applying the test. The time of the invention is critical. Admittedly, it is not an easy test to conduct, but it must be faced in view of the time period limitation of Title 35, U. S. C. § 103 which establishes the criteria for obviousness as ''at the time the invention was made.'' An expression of this Court clarifying and explaining the requirements of the level of ordinary skill determination is sorely needed. Also, clarification as to which party is to bear the burden and degree of proof with respect to this test is a thorny question not answered in *Graham.*

3. The Standard of Patentability Applied by the Court of Appeals Effectively Denies Patentability to All Combinations of Old Elements.

The decision of the Court of Appeals holds, in effect, that Eash's new combination of old elements is obvious because it produces "an old result, sound production" thereby applying a standard of obviousness which is broader than intended by this Court's holding in *Graham* v. *John Deere Co., supra* and *United States* v. *Adams, supra.* The rationale of the Court of Appeals could be applied as readily to deny patentability to any notable achievement to the broad result or function of which was known previously. The standard of obviousness cannot be so broad as that adopted by the Court of Appeals. Thus, the broad result of "sound reproduction" hardly is a realistic criteria against which to evaluate a meritorious achievement which, in the words of the Court of Appeals, was "facile, economical, and efficient" and which enjoyed "commercial acceptance."

The C. C. P. A. (*In Re Sponnoble,* ..... F. 2d ....., 160 U. S. P. Q. 237 (1969)) recently cautioned that a patentable achievement may reside in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. Thus, the C. C. P. A. followed the lead of this Court in *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.,* 261 U. S. 45, 67 (1923).

We are mindful of the test for determining patentability which is laid down in *Graham* but we are aware of the concurrent holding in *United States* v. *Adams, supra,* which recognized that a combination claim of old elements can be patentable. The Court recognized that the Eash combination was new and novel but minimized the achievement by the characterization that it merely achieved "sound reproduction", which was old. By the same standard, the

battery in *Adams* would be old because it produced electrical power, a known phenomenon.

Rather, the proper consideration of a patent claim calls for realistic appreciation of the achievement involved. In *United States* v. *Adams, supra,* at page 52, this Court stated:

> ". . . These long-accepted factors, when taken together, would, we believe, deter any investigation into such a combination as is used by Adams. This is not to say that one who merely finds new uses for old inventions by shutting his eyes to their prior disadvantages thereby discovers a patentable innovation. We do say, however, that known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness."

The Supreme Court in *Diamond Rubber Co.* v. *Consolidated Rubber Tire Co.,* 220 U. S. 428, 434 (1911), stated:

> "It possesses such amount of change from the prior art as to have received the approval of the Patent Office, and is entitled to the presumption of invention which attaches to a patent. Its simplicity should not blind us as to its character. Many things, and the patent law abounds in illustrations, seem obvious after they have been done, and 'in the light of the accomplished results' it is often a matter of wonder how they so long 'eluded the search of the discoverer and set at defiance the speculations of inventive genius' * * *. Knowledge, after the event, is always easy, and problems once solved, present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by merely skillful attention. But the law has other tests of the invention than subtle conjectures of what may have been and yet was not. It regards a change as evidence of novelty, the acceptance

> and utility of change as a further evidence, even as demonstration. And it recognizes degrees of change, dividing invention into primary and secondary, and as they are, one or the other gives a proportionate dominion to its patent grant."

If the criterion of the Court of Appeals is accepted as the proper standard of obviousness, the patent system must disintegrate entirely because only the most basic and primary inventions would produce a broad result lacking precedent in the prior art. Eash claim 1 provided an admittedly novel combination of elements which achieved improvements in the sound reproduction field. There was no claim made that sound reproduction was discovered by the patented invention. If such a broad result as "sound reproduction" is set up against which to measure a new combination of old elements, only the most unusual and unique discoveries will be patentable because the majority of achievements represent combinations of individual elements which are known. This predominantly is the case in the field of mechanical structures.

The Eash invention represents a novel combination of elements in a crowded art. His magnetic tape cartridge gave the impetus to development of a very important industry and it was Eash's cartridge which was emulated by respondent. We submit that the Eash cartridge would be a patentable achievement under the guidelines espoused in *United States v. Adams, supra.*

CONCLUSION.

It is respectfully submitted that for the reasons stated and under the authorities cited, the petition for a writ of certiorari herein sought should be granted.

Respectfully submitted,

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March 3, 1969.

APPENDIX A.

UNITED STATES COURT OF APPEALS
Tenth Circuit.

No. 9821—November Term, 1968.

THE OHIO CITIZENS TRUST COMPANY, TRUSTEE, and TELEPRO INDUSTRIES, INCORPORATED,
Appellants,
vs.
LEAR JET CORPORATION,
Appellee.

Appeal from the United States District Court for the District of Kansas. (District Court No. W-3392.)

Before PICKETT, BREITENSTEIN and HILL, *Circuit Judges.*

BREITENSTEIN, *Circuit Judge.*

The issue is the validity of United States patent No. 2,778,637, the Eash patent, covering a single-reel, endless-magnetic-tape cartridge used in playback machines for sound reproduction. The cartridges contain prerecorded tape and, in connection with playback machines, are commonly used in the home and the automobile to furnish musical entertainment. Appellant Ohio Citizens Trust Company as trustee is the owner, and appellant Telepro Industries, Incorporated, is the exclusive licensee, of the Eash patent. They sued Lear Jet Corporation for infringement. Lear asserted, and the trial court held, that the Eash patent was invalid because the subject matter was obvious to one having ordinary skill in the art.

The controversy centers around Claim 1 of the Eash patent. This is a combination claim. It includes the cartridge which is shallow and has a flat floor and ceiling. The short, upstanding peripheral walls are open at one end to receive the drive wheel and transducer head of the playback machine into which the cartridge is inserted for operation. The cartridge contains a reel with a flat, disk-like flange on which the coil of tape rests and a hub with co-operating means to mount the reel for free rotation. An endless, spirally-coiled roll of tape is mounted edgewise on the reel flange and encircles the hub. The tape is drawn from the inner, and returned on the outer, convolution of the coil. After leaving the coil, the tape passes around guide members and across the openings where it is exposed to the transducer head of the playback machine. One guide member is a post and another is a roller which is engaged by a drive wheel of the playback machine to provide the motive force for the unwinding and winding of the tape. Pressure pads are mounted on the floor of the cartridge and press the tape yieldingly against the transducer head.

The standards of patentability established by Congress are novelty, utility, and nonobviousness.[1] These standards must be applied strictly.[2] When applied to a combination of old elements, the concept of invention is elusive and requires scrutiny "with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements."[3]

The Each device is a novel combination of old elements

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1. 35 U. S. C. §§ 101, 102, and 103.

2. *Carson* v. *Bland*, 10 Cir., 398 F. 2d 423, 426. See also *Cuno Engineering Corp.* v. *Automatic Devices Corp.*, 314 U. S. 84, 92.

3. *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U. S. 147, 152; and *Admiral Corporation* v. *Zenith Radio Corporation*, 10 Cir., 296 F. 2d 708, 713.

which produces an old result, sound reproduction, in a facile, economical, and efficient manner.[4] Commercial acceptance shows its utility. The crux of the case is the standard of nonobviousness. This standard must not be confused with the standard of novelty. A combination of old elements may be new and at the same time obvious to one skilled in the art.

The ultimate question of patent validity is one of law.[5] The conclusion of presence or absence of obviousness is dependent on the facts in a particular case. The decision in *Graham* v. *John Deere Co.*, 383 U. S. 1, 17, points out that the § 103 standard of nonobviousness lends itself to basic factual inquiries relating to the scope and content of the prior art, the differences between the prior art and the claims in issue, and the level of ordinary skill in the art. We turn to the facts bearing on these inquiries.

The three elements of the Eash device stressed by counsel are (1) the use of the reel, (2) the positioning of guide members on the same level as the reel, and (3) the assurance of proper tape tension to protect against undesirable variations in sound.

We consider first the reel. It is an old element in sound reproduction devices. Eash has one freely rotating reel which contains the coil of tape. The endless tape is unwound from the inside of the coil and rewound on the outside. Such a coil was present in a device known as Mohawk Message Repeater with which Eash became familiar when working on his device before the patent application was filed. Mohawk was designed for short playing times and contained no reel. Instead the coil moved around a fixed-position circular metal strip. The coil rotated with sub-

4. See *Consolidated Electrodynamics Corporation* v. *Midwestern Instruments, Inc.*, 10 Cir., 260 F. 2d 811, 816.

5. *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U. S., 147, 155.

stantial freedom in the cartridge without the application of a braking or driving force. Eash desired to use a longer tape to provide more playing time. He accomplished this result by the use of a reel for the storage of the tape. Except for the reel, the length of the tape, and the positioning of the guide members on a level different from that of the reel, Mohawk and Eash are substantially similar. Nothing in the record shows that the Mohawk device came to the attention of the Patent Office in connection with the application which resulted in the Eash patent.

Emphasis is placed on the fact that the Eash reel is freely rotating. The coil in Mohawk winds and unwinds with substantial freedom. Anticipation of the freely rotating reel is claimed on the basis of the Daniels patent, No. 2,817,516, and the Weiss patent, No. 2,288,983. On Daniels, the testimony of the expert witnesses was divided and the trial court chose to credit the evidence of Lear that it disclosed a freely rotating reel. Weiss has a "magazine or housing" with an endless loop of tape supported on a disk or spool which is rotated by the pull of the tape. It does not show a hub around which the tape could be wound. On the basis of the Daniels and Weiss disclosures, the trial court held that "the element of free reel rotation is disclosed in the prior art."

Eash differs from Mohawk not only in the use of a reel but also in the location of the guide members on the same level as the reel. Mohawk has the guide members on a different level. Lear says that the positioning on the same level is shown by its patent No. 2,679,394. The trial court made no finding on this point but an examination of the pertinent exhibit convinces us that Lear is right. Be that as it may, we see no significance in the use of one or two levels. The problem is one of assembly of the pertinent elements. No evidence indicates that positioning on the same level produces any new or different result.

The evenness and regularity with which the tape is drawn past a recording or playback head is important to satisfactory sound reproduction. Counsel supporting the Eash patent says that it secured such a desirable result by use of the freely rotating reel. The record shows that Eash had difficulty in attaining this result until he learned that Mohawk used lubricated tape and substituted that tape for the tape he had previously used. Lubricated tape is old to the art and no claim of patentability is based on its use. No specification of the Eash patent refers to lubricated tape. The word "tension" does not appear in the patent. No element is proposed as a means of tension elimination or compensation. The unique operation of the Eash device results from the neutralizing of varying tape tension by the use of lubricated tape coiled on a freely rotating reel. On substantial evidence the trial court found that to obtain this result "the development of lubricated tape with static dissipating features was a necessary, if not the primary element." We agree with the trial court that the attempt to interject tension into the claim is hindsight. The patent must be judged by what is claimed for it in the patent application—not by what is asserted in subsequent litigation.

The controversy narrows to whether the use of an endless coil of tape on a freely rotating reel is a patentable device. Both the endless coil and the freely rotating reel are within the scope and content of the prior art. The significant difference between Mohawk and Eash is that Eash places the endless coil on a reel. The skill required to make this change is mechanical. A product of mere mechanical skill is not patentable.[6]

The question of infringement need not be considered because an invalid patent cannot be infringed.[7]

Affirmed.

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6. *Carson* v. *Bland*, 10 Cir., 398 F. 2d 423, 426. See also *Graham* v. *John Deere Co.*, 383 U. S. 1, 35-36.

7. *Carson* v. *Bland*, 10 Cir., 398 F. 2d 423, 427.

APPENDIX B.

IN THE UNITED STATES DISTRICT COURT
For the District of Kansas.

THE OHIO CITIZENS TRUST COMPANY, TRUSTEE, and TELEPRO INDUSTRIES INCORPORATED, *Plaintiffs,* vs. LEAR JET CORPORATION, *Defendant.*	Civil Action No. W-3392

MEMORANDUM.

FINDINGS OF FACT AND CONCLUSIONS OF LAW.

This is a patent infringement action commenced on April 12, 1965, by the owner of record and the licensee, the Ohio Citizens Trust Company and Telepro Industries, Inc., respectively, of United States patent No. 2,778,677, hereinafter called the Eash patent, against the Lear Jet Corporation. Ohio Citizens Trust, an Ohio corporation, holds title to the patent as trustee for the estate of George H. Poulson. Telepro Industries, Inc., a New Jersey corporation, has been the exclusive licensee since 1964. On plaintiff's motion at trial, the complaint was dismissed as to William Lear as an individual.

Jurisdiction.

Jurisdiction exists under 28 U. S. C. § 1338, and venue is proper under 28 U. S. C. § 1400. Lear Jet Corporation (hereinafter Lear Jet) a Delaware corporation, has a regular and established place of business within the District, at Wichita, Kansas.

The Patent in Suit.

The Eash patent describes a device called an "Endless Magnetic Tape Cartridge." The application was originally filed June 7, 1954 (appocation [sic] serial no. 434,982), containg 24 claims. Application for the present patent, containing four claims, was filed July 30, 1954, as a "continuation-in-part" of the earlier application, which was abandoned. The patent was granted January 22, 1957.

Only claim one is in issue, although plaintiffs originally claimed infringement of claims 1 and 2, and later added the remaining two claims. Prior to trial, plaintiffs limited the charged infringement to the first claim.

The Eash cartridge is a plug-in, single-reel, endless tape cartridge. Tape cartridges, as such have become familiar to the public since the introduction of combination automobile radio-tape playback machines, and cartridges containing pre-recorded tape for use therein.

Claim 1 is a combination claim. It includes the cartridge housing, substantially shallow, with flat top and bottom walls, and short, upstanding peripheral or side walls, with openings through the short side wall at one end to receive the drive wheel and transducer head of the playback machine, into which the cartridge is inserted for operation. It contains a reel with a flat, disk-like flange, upon which the coil of tape rests, and with a hub with cooperating means on the reel hub and the housing to

mount the reel for free rotation. An endless, spirally-coiled roll of tape (herein called the "coil") rests on the reel encircling the hub, and mounted edgewise on the reel flange. An endless loop of tape extends from the coil, drawn from the inner convolution, and returned on the outside of the coil, after passing around two guide members, one located at each side of the open end of the housing. The tape passes across the openings, where it is exposed to the transducer head of the playback machine. One guide member is merely a post; the other a roller, called the "pinch roller," which is engaged by a drive wheel of the playback machine when in operation, and provides the motive force for the tape. Pressure pads, called "biasing means," are mounted on the floor of the housing, and positioned to urge the tape yieldingly against the transducer head when in operation.

Although the remaining three claims are not in issue, it may be helpful to summarize them. Claim two states that pressure pads and guide members are mounted solely on the bottom wall of the housing, and that the top is a detachable cover. Claim three describes the reel itself, consisting of a hub and flange, with a series of graphite strips mounted radially thereon, to support the tape coil, provide lubrication and a means of dissipating static electricity. The last claim is largely a recapitulation of the elements outlined above, and stating an additional element, a wire guide member which extends across the upper face of the tape coil, but beneath the loop of tape as it is drawn from the inner convolution and passes over the coil as it moves toward the first guide member. It serves to require the emerging strip of tape to travel flatwise over the coil, and to prevent tape within the coil from creeping upward as it rotates.

We may summarize the plaintiffs' position as follows:

1. The Eash cartridge was new and useful.

2. The prior art does not disclose a freely rotating reel capable of use as a reel element of a cartridge as described in its Claim 1 at issue.

3. Claim 1 at issue was not within the level of ordinary skill in the art.

Defendant's Position.

The defendant denies the validity of the claim in suit, as well as the alleged infringement. Defendant asserts that all the elements of Claim 1 are found in the prior art, and that the combination lacks novelty. Further, whether the concept of a freely rotating reel, the crux of the device, is or is not disclosed in prior art, it is an obvious element, considered both separately and as a constitutent part of the combination, and the combination itself is obvious. Defendant argues, also, that the claim fails to comply with 35 U. S. C. § 112, which requires that claims particularly point out and distinctly claim the subject matter the applicant regards as his invention. Claim 1 does not mention the graphite strips or ribs mounted on the reel, which, it is alleged, Eash regarded as an important feature of his invention, and which, in fact, he found essential to satisfactory performance with 300 feet of tape; the length necessary for his desired playing time of 15 minutes. Defendant characterizes the concept of a freely rotating reel, assertedly the element of the claim which makes the combination both novel and unobvious, as merely an afterthought on the part of plaintiffs' counsel.

Lastly, defendant asserts that plaintiffs are estopped to enforce the patent in suit, because of Eash's failure or omission to disclose to the Patent Office a pertinent item of prior art, an unpatented cartridge called the Mohawk Message Repeater. (There is attached Plaintiffs' Exhibit 19 showing Claim 1 of the patent in suit.)

THE LEAR JET CARTRIDGE.

If Claim 1 of Eash patent is valid, its teachings were adopted by Lear Jet. It would be difficult for anyone making a tape recording cartridge using a freely rotating reel not to infringe its claim.

Defendant's contentions of non-infringement go primarily to the cartridge "housing." It contends, that

1. its cartridge is not "substantially shallow;"

2. its cartridge "housing" does not have "flat" top and bottom walls;

3. its cartridge housing does not have "upstanding" rear walls; and

4. its tape guides at the front corners are not "at the same level" as the reel described in plaintiffs' Claim 1.

In our opinion these contentions are without merit.

Defendant's further contention that the freely rotating reel was not contemplated by the Eash patent is equally unsound. Paragraph (C) of Plaintiffs' Ex. 19 shows "the reel for free rotation on an axis."

The expert testimony adduced by both sides added little to the facts established by the exhibits introduced (See Plaintiffs' Ex. 1 and Defendant's Ex. HH). The basic structural and functional aspects of the accused Lear Jet cartridge and the Eash cartridge are similar. A comparison of the exhibits introduced show that the elements of the Eash Claim 1 are followed by and operate substantially in the same manner in the Lear Jet cartridge.

The improvements of the Lear Jet cartridge for automobile use had as their genesis the study and testing of the Eash cartridge as adopted and refined by Muntz.

PUBLIC ACCEPTANCE OF AN ENDLESS MAGNETIC CARTRIDGE.

The Eash cartridge with the utilization of lubricated tape received business acceptance first in 1957 in play-back machines and its acceptance increased with its use in programming background music, radio and broadcasting stations and with the help of Muntz promotions in the automobile field in 1961 and 1962.

Lear Jet by its refinements and understandings of the requirements of the business community, particularly in the automobile and tape recording music field, added to this public acceptance.

The Eash cartridge concept with the refinements of lubricated magnetic tape which could be utilized had and are having public acceptance and commercial success.

VALIDITY.

The prior art. The plaintiffs' categorization and listing of the prior art is divided in three parts:

1. Prior art relating to plug-in, self-threading magnetic tape cartidges utilizing endless tape loops:

Barrett patent No. 2,551,198 application filed March 22, 1947.

Smith patent No. 2,637,560, application filed December 20, 1949.

Camras patent No. 2,857,164, application filed August 1, 1961.

Lear patent No. 2,679,394, application filed August 30, 1951, the actual "Lear-repeater" cartridge, and the descriptive literature relating thereto.

The Mohawk "Message Repeater," advertised in *The Audio-Visual Equipment Directory,* March 1953 and described in the undated Mohawk leaflet.

2. Prior art relating to non plug-in and non self-threading magnetic tape handling mechanisms involving the use of spirally coiled endless tape loops:

Weiss patent No. 2,288,983 application filed August 28, 1940.

Miller patent No. 2,426,838 application filed April 18, 1945.

Bugun patent No. 2,490,771, application filed September 6, 1945.

Camras patent No. 2,647,750, application filed November 22, 1947.

Thad patent No. 2,615,989, application filed October 2, 1948.

3. Prior art relating to devices from other fields:

Busch patent No. 2,837,332, application filed May 21, 1953.

Daniel patent No. 2,817,516, application filed May 25, 1953.

In addition to the above, patents and reference to the Mohawk "Message Repeater" cartridge, the defendant refers to the E. S. Horres patent No. 2,982,489, filed November 13, 1953 and issued May 2, 1961. The plaintiffs contend Horres is not prior art. Defendant's Ex. Q-1 and Q-2 were working models of the Horres abandoned patent Ser. No. 391,792 filed November 13, 1953. The legal effect of this abandonment and refiling is not necessary to the conclusions we reach here.

Each of the elements of the claim in suit is concededly familiar in the prior art, with the exception of the "co-operating means on the reel hub and the housing mounting the reel for free rotation on an axis," identified hereinafter as element (c), as it is found in plaintiffs' Ex. 19. Plaintiffs' expert witness, Dr. Edwin Ziegler, testified on cross-examination that element (c) was the single "new" element of Claim 1. [Tr. 575] Plaintiffs' counsel stated

that it was new in magnetic recording generally. This free mounting of the coil-bearing reel on a journal, mounted in turn on the bottom of the housing, is the crux of the claim. Dr. Ziegler deemed it "extremely critical," in addition to tape lubrication (for which Eash does not claim credit), to obtain satisfactory performance from a substantial amount of tape such as 300 feet, the length then necessary for 15 minutes playing time, which was one of Eash's objects. Thus, the mechanical structure, mounting of a reel to rotate freely on a journal or post, is extraordinarily simple. It is nothing more than the use of a wheel freely rotating on an axle or axis.

The phenomenon of its operation in the tape cartridge, however, is said to be extremely complex. Plaintiff asserts that it operates as a unique, inherently self-operative, self-regulating, unprecedentedly simple means of neutralizing or compensating for inevitable variations in tension of the tape which are due to friction, temperature and humidity changes, varying quality of tape, continued use and wear of recording of play-back machines, and the like. Free rotation also affords a minimum of mechanical inertia, or resistance to movement, which permits the tape to be started and gotten up to the requisite speed for play-back in a fraction of a second.

In operation, the reel moves with a jerky, irregular motion. Dr. Ziegler testified that the uniqueness lay in this, its ability to neutralize variable tape tension by this irregular motion, and yet impart a smooth movement to the tape as it passes the transducer head.

Defendant contends this element separately considered is not novel, and that similarly, its use in a tape cartridge is neither novel nor unobvious. Extended testimony was elicited on the question whether certain items of prior art disclosed a freely rotating reel. Its anticipation in prior

art bears only upon the non-obviousness of its introduction into a magnetic plug-in tape cartridge, and of that it is not at all determinative.

For example of prior free reels, defendant cites the Daniel patent, U. S. patent No. 2,817,516 (filed 1953), Busch, No. 2,837,332 (filed 1953), Weiss, No. 2,288,983 (filed 1940), and the Horres cartridge, all of which use an endless coil of tape on a single reel.

Daniel describes a "sound tape container," for mechanically sound-inscribed tape; Busch, a "continuous film reel." Plaintiffs contend these are not applicable, analogous prior art, Daniel because sound-inscribed tape differs from magnetized tape in its resiliency and elasticity, Busch because the rapid frame-to-frame movement of film is altogether different from the smooth, continuous movement required of magnetized tape. Eash's problem was a purely mechanical one, that of storage and carriage of magnetic tape. To one mechanically skilled and knowledgeable in that endeavor, the techniques of storing and moving other tape and film would clearly be of interest for possible application, with modification if necessary.

Although the Daniel drawing is unclear, and expert testimony of the issue was divided, our reading of Daniel persuades us that it does have a freely rotating reel. It has a "closed casing having a single loop opening in its front wall," [Defendant's Ex. J, Daniel, col. 2, ll. 26-37] with a "plate . . . rotatably mounted on the bottom of the casing." [col. 1, l. 58] Although the presence of a "substantially tightly wound" coil of tape necessarily implies some means for retaining the configuration of the coil, the presence or absence of a hub is unclear. It appears that Weiss also discloses a freely rotating reel: "The disc is free to move depending on any force, such as the withdrawal of the tape." [Defendant's Ex. J, Weiss, p. 2, col. 1, ll. 59-71]

Although Busch contains a freely rotatable disc, it does not rely upon free rotation to neutralize variable tape tension, but upon a slip ring resting on a cork friction pad. As the tension of the tape varies due to different rates at which the tape leaves the inner convolution and returns on the coil periphery, the coil is engaged by the slip ring and caused to slip relative to the movement of the carrier or reel, until the tension or slackness of the tape is neutralized.

Plaintiff correctly distinguishes Horres, as not teaching free rotation. The tape is moved by both a pinch wheel adjacent the play-back head, and a separate drive mechanism which engages the reel directly. Although the latter does drive the wheel positively, it does so at a speed, which, in relation to the speed of the tape drive, acts as a braking force.

We find, thus, that the element of a free reel rotation is disclosed in prior art. Its use in a single reel magnetic tape plug-in type cartridge was new however. Defendant asserts that whatever findings are made of prior art, the allegedly novel feature of the invention, the free reel, is elementary, and that a "claim to patentability may not rest on the discovery of a new use to which such an element was readily accommodable by reason of its intrinsic properties."

The Mohawk Message Repeater [Plaintiffs' Ex. 12] in purpose and use is like the Eash cartridge. It employs a single, endless coil of tape, a loop of which is drawn from the center of the coil, and returned to its periphery, after passing around guide members adjacent to an open end, where it is exposed to the transducer head of the play-back machine, into which it is vertically inserted. Unlike the Eash cartridge, the Mohawk uses a short length of tape, approximately 60 feet, sufficient for a maximum of two minutes' playing time. The model advertised and marketed in 1953 contained no reel. The tape coil revolved around a

fixed-position circular metal strip or hub. The coil rotates freely, that is, no driving or braking force is applied to it. The only rotating-inhibiting forces are friction derived from three sources: (1) movement of the inner convolution of the coil upon the stationary circular hub; (2) movement of the coil against the walls of the housing; (3) movement of individual convolutions within the coil upon one another as the coil revolves. The friction is negligible, for the cartridge has both characteristics of Eash's free rotation: (1) sufficiently low mechanical inertia making it suitable for broadcasting use, and (2) lack of any necessity for any driving or braking force applied to the reel to neutralize or compensate for varying tape tension. The Mohawk used lubricated tape; Eash did not, but provided lubrication by graphite strips mounted on the reel flange.

Eash testified that the principal advantage of his over the Mohawk was the former's ability to use more tape, and provide longer playing time. After Eash had undertaken the cartridge project at his employer's behest, Mr. Poulsen mailed him a Mohawk brochure, inquiring whether his work had been anticipated. [Plaintiffs' Ex. 13] When he found that its playing time was only two minutes, he put it aside as unsuited for his purposes. He then sketched his own projected cartridge [Plaintiffs' Ex. 27] which was to use 300 feet of tape. Given the added weight, surface area, and mass of the longer tape he proposed to use, free rotation, of such larger coil on a fixed circular member would become an impossibility, due to the radically increased friction. An obvious means of preserving the mechanical simplicity of the Mohawk cartridge, and its substantially free rotation of the coil, would be the use of a rotatable reel or disc to support the tape coil. This was disclosed in the prior art. In our view, the net effect of the introduction of a free reel was to make an obvious modification of the Mohawk cartridge by the use of a principle old in time and in the art—a freely rotating reel or wheel to carry the tape.

The expert witnesses, Drs. Ziegler and Hughes, disagreed upon the complexity or simplicity of scientific account of the tension-compensating operation of the reel. Assuming it is an extremely complex technical phenomenon, as Dr. Ziegler stated, this does not alter the mechanical obviousness of using a free reel to support the tape coil to achieve free rotation.

A finding of obviousness and lack of novelty may be urged upon alternative grounds: first, that in view of all the prior art *excepting* Mohawk, and because of the lubricated tape developments, it was obvious to *eliminate* any applied driving or braking force acting directly upon the reel and permit it to turn freely; alternatively, that in view of Mohawk alone, which achieved substantially free rotation of a small coil of tape without a reel, it was obvious to *introduce* a free reel to preserve its concomitant advantages of free rotation and mechanical simplicity, and yet achieve longer playing time.

Defendant asserts that Claim 1 is invalid for failure to include the graphite ribs mounted on the reel flange which supports the tape coil, a fatal non-compliance with 35 U. S. C. § 112, which requires that claims particularly point out and distinctly state the subject matter the applicant regards as his invention. They are specifically recited in Claims 3 and 4, and described at length in the specification.

The Eash specification states that "dissipation of static electricity generated between the convolutions of the tape roll is extremely important in connection with a relatively large tape roll having several hundred feet of tape thereon," and that "unless efficient means is provided for dissipating such accumulated static charges, the convolutions bind to such an extent that free movement of the tape roll is impossible." [Defendant's Ex. J, Eash, p. 2, col. 4, ll. 12-15, 19-22]

The use of graphite strips is old. The examiner, in rejecting the original 24 claims, stated that "there would be no invention in adding static electricity eliminating means in any quantity or in any specific location," [Defendant's Ex. H, p. 32] citing a patent of one Miller. The mechanical mounting of the reel or free rotation, "cooperating means . . .," was not disclosed in the abandoned 24 claims. In urging the amended claims, Eash's attorney distinguished Miller on a ground the examiner had previously rejected, the positioning of the ribs so that the coil rested directly on them. The redrawn claims presumably were not granted on the basis of this single previously-rejected distinction, of course.

To some extent, a determination of what the inventor regards as the subject matter of his invention, and also of its novelty or unobviousness, must be made in terms of the inventor's purpose, a correlation of means to ends. What may be obvious for one purpose may not be so for another purpose. One of Eash's objects, as disclosed in the specification, was the freest possible movement of the tape. The specification reads as follows:

> "The relative movement between the convolutions of the tape in the spiral roll during operation generates static electricity, which, if not eliminated or removed, militates against the free and desired rotation of the roll and the smooth passage of its exposed loop from and back to the roll. To make possible the free turning of the tape roll in the first instance, the roll is dusted with powdered graphite so that some of it penetrates between the convolutions. In addition, however, an important feature of the invention resides in the provision of means for eliminating or removing static electricity from the roll and at the same time providing a continuing source of lubricant for the roll." [Col. 2, ll. 43-51]

The word "tension" appears nowhere in the entire patent,

nor is any element advanced as a tension-eliminating or compensating means. Yet at trial, this feature or consequence of the reel, tension compensation, was advanced as the pre-eminent innovation, indeed, as the "subject matter" of the invention. It is clear that free movement of the tape was an object of the design. Graphite as a lubricant and a dissipator of static electricity was advanced as an important means to this end. Free mounting of the reel was not, precisely, we think, because it was toc obvious. Manifestly, a free reel mounting and the use of graphite are complementary means to the single end of free tape movement. Both are obvious.

Accordingly, defendant characterizes the freely rotating reel, which plaintiffs have denominated the crux of the suit, as an "afterthought." The Eash specifications do emphasize the importance of free rotation; however, they further show that the principal obstacle thereto was not in the manner of mounting the reel, but in the presence of static electricity charges and impeding tape friction. We cannot, of course, gainsay the plaintiffs' claims of the unique operation of the reel to neutralize varying tape tension; we are persuaded that this claim benefits entirely from hindsight, however. This peculiar function of the reel appears nowhere in the patent. And however complex and scientifically interesting the phenomenon may appear upon investigation, it does not make novel or negative the mechanical obviousness of introducing and using the reel to support and carry the coil. In addition the development of lubricated tape with static dissipating features was a necessary, if not the primary element which caused the so called phenomenon which is the basis of the success of the plug-in, endless, magnetic tape cartridge and not the freely rotating reel which supports the tape.

The facts and circumstances in the case lead us to the opinion that the Eash patent does not rise to the dignity of

invention. It was not novel and it was obvious to one having ordinary skill in the art. It follows that the Lear Jet device could not infringe an invalid patent.

Conclusions of Law.

The burden of establishing the invalidity of a patent or of the claims therein rests upon the defendant who must do so by clear and convincing evidence. 35 U. S. C. § 282, *Mott Corp.* v. *Sunflower Industries, Inc.*, 314 F. 2d 872 (10th Cir. 1963), and *Consolidated Electrodynamics Corp.* v. *Midwest Instruments*, 260 F. 2d 811 (10th Cir. 1958). A duly issued patent is presumed valid in all respects, a presumption which is strengthened as against prior art which was before the patent office in passing upon the application 35 U. S. C. § 28. *Bewal, Inc.* v. *Minnesota Mining and Mfg. Co.*, 292 F. 2d 159; 164. It is of less force as against prior art not so considered. *M. B. Skinner Co.* v. *Continental Industries, Inc.*, 346 F. 2d 170 (10th Cir. 1965).

It is a rebuttable presumption in all instances, and may be overcome by substantial evidence negating any one of the three prerequisites for patentability. The ultimate question of patent validity is one of law, and not of fact. *Mott Corp.* v. *Sunflower Industries, Inc.*, 314 F. 2d 872 (10th Cir. 1963).

The three prerequisites for patentability are capsulized in *Admiral Corp.* v. *Zenith Radio Corp.*, 296 F. 2d 708 (10th Cir. 1961):

> "To be patentable, a product or process must not only be a new and useful improvement over the prior art but also it must not be obvious to one of ordinary skill in the related art." 296 F. 2d at 712.

The question of obviousness of Claim 1 combination of the Eash patent is the issue herein. 35 U. S. C. § 103 provides as follows:

> "A patent may not be obtained though the invention in not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

This statute is discussed most comprehensively in *Graham* v. *John Deere Co.*, 383 U. S. 1, 15 L. ed. 2d 545, 86 S. Ct. 684, where the Court found that,

> "Congress intended to codify the essential purpose reflected in existing judicial precedents—the rejection of insignificant variations and innovations of a commonplace sort—and also to focus inquiries under § 103 upon nonobviousness, rather than upon 'invention,' as a means of achieving more stability and predictability in determining patentability and validity." 383 U. S. at 16, 15 L. ed. 2d at 555.

The Court outlined the pertinent basic factual inquiries thus:

> "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claim at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. . . . Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy." 383 U. S. at 17-18, 15 L. ed. 2d at 556.

It is to be emphasized that we deal here with a combination claim. As stated in *Aro Manufacturing Co.* v. *Convertible Top Replacement Co.*, 365 U. S. 336; 1 L. ed.

2d 592, 81 S. Ct. 599, reh. denied, 365 U. S. 890, 6 L. ed. 2d 201, 81 S. Ct. 1024 (1961):

> "If anything is settled in the patent law, it is that the combination patent covers only the totality of the elements in the claim, and that no element, separately viewed, is within the grant . . .
>
> "No element, not itself separately patented, that constitutes one of the elements of a combination patent, is entitled to patent monopoly, however essential it may be to the patented combination. . . ." 365 U. S. 344, 345, 5 L. ed. 2d 598, 599.

See also *Bullard Co.* v. *General Electric Co.*, 348 F. 2d 885 (4th Cir. 1965).

Thus, we are not concerned with the novelty or unobviousness of any constituent part of the claim, separately considered. The novelty or unobviousness of any separate element may be considered, however, for whatever light it may cast on the novelty or unobviousness of the combination as a whole.

Further, we are mindful that,

> "obviousness, within the meaning of the statute, does not mean that one skilled in the art can perceive the solution after it has been found and pointed out by someone else, but the test is as of an earlier time, when the search is on for the solution to the problem." *Mott Corp.* v. *Sunflower Industries, Inc.*, 314 F. 2d 872 at 879 (10th Cir. 1963).

See also *King-Seeley Thermo Co.* v. *Refrigerated Dispensers, Inc.*, 354 F. 2d 533 at 537 (10th Cir. 1965).

The test in this Circuit of patentability of combination claims or patents, prior to *Graham*, has been result-oriented. See, *e.g.*, *Admiral Corp.* v. *Zenith Radio Corp.*, 296 F. 2d 708 (10th Cir. 1961), wherein the court stated:

> "A mere aggregation of old elements is not patentable when the respective individual functions of the

> assembled elements are not changed and produce no result other than the added results of such functions. A combination of old elements is patentable if it accomplished either a new result or an old result 'in a more facile, economical, and efficient way in a particular environment which presented peculiar problems.'" 296 F. 2d at 713.

Similarly, in *Hutchinson Mfg. Co.* v. *Mayrath*, 192 F. 2d 110 (10th Cir. 1951), the court states:

> "When the respective individual functions of the elements assembled are not changed and where they produce no result other than the added results of such functions, there is a mere aggregation of elements.
>
> "When the elements are so united that by their reciprocal influence upon each other, or by their joint action on a common objective, they perform additional functions and accomplish additional results, the union is a true combination." 192 F. 2d at 112 cert. dened. 96 L. ed 1329.

See also *King-Seeley Thermo Co.* v. *Refrigerated Dispensers, Inc., supra; Consolidated Electro Corp.* v. *Midwestern Instruments, supra; Baum* v. *Jones and Laughlin Supply Co.*, 233 F. 2d 865 (10th Cir. 1956); *Griswold* v. *Oil Capital Valve Co.*, 375 F. 2d 532 (10th Cir. 1967) (rehearing denied).

The factors of business acceptance, etc, are not the only factors bearing on the question of obviousness. The court may consider that known disadvantages which would discourage the search for new inventions may be taken into account as well as that noted experts expressed disbelief in the invention. *United States* v. *Adams*, 383 U. S. 39, 15 L. ed. 572, 86 Sup. Ct. 708 (1966).

Under constitutional restraints (Art. 1, ¶ 8) patents are not authorized whose effects are to remove existent knowledge from the public domain, or to restrict free access to

materials already available. *Graham* v. *John Deere Co., supra.*

A claim to patentability may not rest on the discovery of a new use of a structural element substantially similar to one old and well known in the art when such element is readily accommodatable by reason of its intrinsic properties. *Gould National Batteries, Inc.* v. *Gulton Industries, Inc.*, 361 F. 2d 912 (3rd Cir. 1966).

When the elements and purposes of one use are related and similar to those in another use and because and by reason of that relation and similarity, make an appeal to the mind of a person having mechanical skill and knowledge of the purposes of the other use, then such uses are analogous. The fact that the prior art or use is analogous has an important bearing on the issue of novelty, obviousness and invention (see *Mott Corporation* v. *Sunflower Industries, Inc., supra,* and cases cited therein).

One may not ascribe to one element of a patented combination the status of the patented invention. *Aro Mfg. Co.* v. *Convertible Top Replacement Co., supra.*

The Eash patent is not valid. The Lear Jet Cartridge therefore does not infringe the Eash patent in suit.

The defendant is not entitled to an award of attorneys' fees under 35 U. S. C. § 285.

Judgment will be entered for defendant with costs taxed to plaintiffs.

Prevailing counsel will prepare, circulate and submit a judgment not inconsistent with the views expressed herein.

At Wichita, Kansas this 27th day of June, 1967.

(Signed) Wesley E. Brown,
United States District Judge.

CLAIM 1 OF PATENT 2,778,637

(Numbers in brackets refer to reference numbers on photographs of infringing cartridges which follow.)

A single-reel magnetic tape cartridge for use with a recording playback machine of the type having a transducer head and a drive wheel spaced therefrom for pulling the tape past the transducer head, said cartridge comprising:

(a) a substantially shallow housing

having flat closely spaced top and bottom walls (1)

and

substantially short upstanding peripheral walls (2) extending all around the housing except at one end thereof to leave said end of the housing open at least at two transversely spaced zones (3), the spacing of which corresponds to that of the drive wheel and transducer head of a recording playback machine which is to receive the cartridge;

(b) a reel in the housing spaced from said open end thereof, said reel having

a disk-like flange (4) flatwise overlying the bottom housing wall

and having

a hub (5) projecting upwardly from said flange, coaxial thereof;

(c) cooperating means on the reel hub and the housing mounting the reel for free rotation on an axis (6)

fixed with respect to the housing and normal to the reel flange and to the bottom housing wall;

(d) an endless spirally coiled roll of tape (7) on said reel

encircling the hub thereof

and

edgewise supported by the reel flange, said

roll having a loop projecting therefrom toward the open end of the housing,

one portion (8) of said loop joining with the outer convolution of the roll;

and

another portion (9) of said loop joining with the outer convolution of the roll;

(e) spaced guide members (10) (11) carried by the housing

in the interior thereof

and

at the same level as said reel,

said guide members being arranged adjacent said open end of the housing,

and

around which said loop is trained to be held thereby

with an intermediate portion of the loop extending between said guide members

and

with two spaced areas (12) (13) of said intermediate portion of the loop exposed for cooperation with the drive wheel and transducer head of a recording playback machine having the cartridge in place thereon,

one of said guide members (10) having that portion of the loop which joins with the inner convolution of the roll trained thereover,

and

the other guide member (11) comprising

a roller

freely rotatably mounted on the housing with its axis in fixed parallel relationship to the reel axis

and

having that portion of the loop which joins with the outer convolution of the roll trained thereover,

said roller being adapted to be positioned opposite the drive wheel of a recording playback machine having the cartridge in place thereon to maintain that exposed area (12) of the loop which is in contact with the roller in flatwise frictional driving engagement with the drive wheel of a recording playback machine;

(f) and biasing means for yieldingly holding said other exposed portion (13) of the loop in flatwise engagement with the transducer head of a recording playback machine having the cartridge in place thereon, said biasing means comprising

a spring member (14)

mounted in the housing

and having

a resilient portion projecting toward the open end of the housing between said guide members to bear upon said other exposed portion of the loop and press the same outwardly toward engagement with the transducer head.